

Notice of request for more information

The Environmental Permitting (England & Wales) Regulations 2016

NNB Generation Company (SZC) Ltd (Companies House reference: [09284825](#))

90 Whitfield Street
London
England
W1T 4EZ

Application reference: EPR/CB3997AD/A001 (Sizewell C water discharge activities permit application)

The Environment Agency, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit duly made on 26/06/2020.

Send the information to the e-mail addresses (and upload it to the EA Sharefile site) specified below by 15/11/2021. If we do not receive this information by the date specified then we may treat your application as having been withdrawn or it may be refused. If this happens you may lose your application fee.

E-mail addresses (please note there is a 10MB file size limit for e-mails):

- 1.) [REDACTED]
- 2.) PSC-waterquality@environment-agency.gov.uk

EA Sharefile site for uploading application and supporting information documents for application EPR/CD3997AD:

- [https://ea.sharefile/\[REDACTED\]](https://ea.sharefile/[REDACTED])
This is a specific folder titled 'Sch 5 [No.5] response', and has been created for you to upload the additional information response documents and/or files.

Postal address: Environment Agency, National Permitting Service (Water Quality), Richard Fairclough House, Knutsford Road, Warrington, Cheshire, WA4 1HT

Name	Date
[REDACTED]	18 October 2021

Authorised on behalf of the Environment Agency

Notes

These notes do not form part of this notice .

Please note that we charge £1,200 where we have to send a third or subsequent information notice in relation to the same issue. We consider this to be the first notice on the issues covered in this notice.

The notes that appear after information requests in the attached schedule do not form part of the notice. The notes are intended to assist you in providing a full response to the information requests.

Schedule

Information requests 1 (a) to (i).

The Habitats Regulations Assessment (HRA) for EPR permit requires both an alone and in-combination assessment with other plans and projects, including a within SZC project in-combination assessment. Any conclusions reached must consider the requirements of the site specific conservation objectives. For this, we request the information specified in 1 (a) to (h) below.

- (a)** Please provide a within project in-combination assessment, taking account of the three SZC operational permit applications currently being determined.
- (b)** Please provide an in-combination assessment between the different WDA discharge points and characteristics of the proposed operational WDA permit, these being the combined waste streams A to G (i.e. the trade effluent thermal and chemical plumes and sewage treatment work (STW) discharge components) via the two cooling water discharge outlets (at TM 51080 64125 and TM 51155 64125) and the two waste stream H (i.e. the trade effluent from the fish recovery and return (FRR) system) discharge outlets (at TM 47980 64000 and TM 47980 64254). Any identified relevant in-combination risks and/or hazards can be grouped together for assessment, as detailed within example tables 1 and 2 of the supporting information section below.

This information was not included within appendix C of the SZC WDA application (via the 'Information for the Habitats Regulations Assessment' report ref: 100232391, also referenced as the 'shadow HRA report'), but some information has subsequently been provided as part of the SZC DCO process.

We will provide the modelled area of organic enrichment from the FRR (waste stream H) for use in this assessment; this is a plume size of 9.0 km², with the following dimensions calculated from information in your SZC WDA supporting information technical report TR520 (SZC influence of the FRR system on water quality and ecological receptors):

- Ellipse length: 8,221 metres
- Ellipse width: 1,393 metres.

- (c)** In the SZC WDA Appendix C report (Information for the Habitats Regulations Assessment) it states in section 10.2.1 that the potential effects from the STW discharge (waste stream G) were not considered in the appropriate assessment (no justification is provided to explain this). This effluent can potentially be screened out of the in-combination assessment for identified risks (e.g. nutrient enrichment) if you provide sufficient evidence/justification of why there is no likely significant effect alone. Therefore, please provide sufficient explanation to demonstrate this, including the worst case (maximum) discharge volume, rate, loading and concentration (of appropriate substances for the risk) from the STW, and the worst case (minimum) available cooling water flow rates from waste stream A (along with the appropriate substance background concentration(s) within the abstracted cooling water).
- (d)** Please provide an in-combination assessment with proposed SZC construction related permits (i.e. WDAs and combustion related activities from diesel generators etc), together with a timeline of the construction, commissioning and operational phases of the SZC project.

This assessment was not provided within the SZC App C HRA report to support the operational WDA permit application. Because sufficiently detailed supporting information has been provided within the SZC operational WDA application regarding proposed construction related WDAs within Appendix B via TR193 edition 5 (SZC Discharges H1 type assessment) and Appendix E via TR306 (SZC marine water and sediment quality synthesis report MS42/5), an in-combination assessment is required.

- (e) Please confirm with sufficient explanation whether Sizewell B (SZB) as a project has been considered in-combination (from a WDA perspective), or as a baseline for the scenarios listed in points I to III below. Please provide an in-combination assessment where required:
- I. SZC operating alone
 - II. SZC and SZB whilst SZB is operational
 - III. SZC alone once SZB decommissions

Additionally, please confirm with sufficient explanation whether Sizewell A (SZA) as a project has been considered in-combination. For example, permit PR4CS1516 at SZA was recently varied on 15/07/2021. This permit includes several active water discharge activities, including 400 m³/day of treated sewage effluent and 980 m³/day of active effluent (for which a TRO (expressed as chlorine) compliance limit of 0.5 milligrams per litre (mg/l) is specified.

Additional explanation to support information requests 1(e) I. to III:

The operational WDA permit currently being considered is for the discharges from the SZC Fish Recovery & Return system (FRR) and Cooling Water (CW) outfalls.

There is an existing Sizewell B (SZB) power station that has correctly been considered as part of the baseline. However, our understanding is that the baseline will change as SZB will be decommissioned within the lifetime of SZC operation.

It is therefore essential to have clear results reported for Sizewell C (SZC) alone within the information provided, this is in addition to SZB and SZC acting together whilst SZB is still operational.

For example Table 8.3 in the Information to inform the HRA report, version 3 page 191 (provided as Appendix C of the WDA application): *The maximum and mean instantaneous areas of thermal plumes at the sea surface for the 2°C and 3°C uplifts for **Sizewell B alone** and for **Sizewell B together with Sizewell C** for May to August, with the percentage overlap with the predicted foraging ranges of the Orfordness and Minsmere common tern colonies.*

In this table there is no separate line for SZC acting alone.

Where quantitative conclusions are supplied please provide the result for SZC, and then SZB and SZC together – in some cases it is currently discussed in the text but it is not always clear. This allows us to easily see the result for the permit being determined.

We understand that the SZC and SZB combined will often represent a worst case scenario, but it is important that the SZC result is presented separately to allow clarity in the HRA. If this isn't appropriate this needs to be clearly reasoned and confirmed in writing.

In addition, we need more clarity over the current date SZB is expected to cease to become operational (if known), and also whether the effects of the SZC discharge once SZB is no longer operating is the same effect as SZC acting alone if SZB was not part of the baseline. What we are interested in understanding is could the effects of SZC once SZB is no longer operational be greater than SZC acting alone without the SZB baseline (i.e. are there are residual effects that could be additive). We appreciate that effects of decommissioning SZB are unknown, but as we know the baseline will change a simple paragraph to explain and cover off this point would make this much clearer. If this is the case, please provide written confirmation.

- (f) Please consider and include relevant marine plans within your non SZC company in-combination assessment.

- (g) Please provide the in-combination assessments in a stand-alone document, with no reference to other documents, in a format that we are able to copy and insert directly into our HRA where agreement on conclusions are reached.
- (h) Please address the following principles in the in-combination assessments, as set out in the DTA Publications Habitats Regulations Assessment Handbook:
- I. Could the in-combination cumulative effects:
 - i. Act in an additive or synergistic way?
 - ii. Increase the sensitivity or vulnerability of the designated features?
 - iii. Result in a layering, spreading or scattering effect on the same designated feature?
 - II. Consider the timing and location of the plans and projects
 - III. Use screening matrices to identify those interactions requiring appropriate assessment
- (i) Please make reference to, and fully consider, the relevant conservation objectives and information provided in the site specific Supplementary Advice Packages when concluding the in-combination assessments. Supplementary Advice Packages are available for the Minsmere to Walberswick Heaths and Marshes Special Area of Conservation (SAC), Minsmere - Walberswick Special Protection Area (SPA), Southern North Sea SAC, Outer Thames Estuary SPA, Alde, Ore and Butley Estuaries SAC and Alde – Ore Estuaries SPA via the web-links provided below:

Natural England (NE) website: Minsmere to Walberswick Heaths & Marshes SAC (UK0012809):

- <https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK0012809&SiteName=Minsmere%20to%20Walberswick%20Heaths&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>

NE website: European Site Conservation Objectives for Minsmere to Walberswick Heaths & Marshes SAC (UK0012809):

- <http://publications.naturalengland.org.uk/publication/5360166388105216>

NE Conservation Advice for Marine Protected Areas: Minsmere-Walberswick SPA (UK9009101):

- <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9009101&SiteName=minsmere&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=12&SiteNameDisplay=Minsmere-Walberswick%20SPA>

NE and Joint Nature Conservation Council (JNCC) Conservation Advice for Marine Protected Areas: Southern North Sea site of community importance SAC (UK0030395):

- <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK0030395&SiteName=Southern%20North%20sea&SiteNameDisplay=Southern%20North%20Sea%20SAC&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=&HasCA=0>
- <https://jncc.gov.uk/our-work/southern-north-sea-mpa/>

NE and JNCC Conservation Advice for Marine Protected Areas: Outer Thames Estuary SPA (UK9020309):

- <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9020309&HasCA=1&NumMarineSeasonality=3&SiteNameDisplay=Outer%20Thames%20Estuary%20SPA>

NE Conservation Advice for Marine Protected Areas: Alde, Ore and Butley Estuaries SAC (UK0030076):

- <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK0030076&SiteName=Alde,%20Ore%20and%20Butley%20Estuaries&SiteNameDisplay=Alde,%20Ore%20and%20Butley%20Estuaries%20SAC&countyCode=&responsiblePerson=&SeaArea=&IFCAAra=&NumMarineSeasonality=&HasCA=1>

NE Conservation Advice for Marine Protected Areas: Alde-Ore Estuary SPA (UK9009112):

- <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9009112&SiteName=Alde,%20Ore%20and%20Butley%20Estuaries&countyCode=&responsiblePerson=&SeaArea=&IFCAAra=&HasCA=1&NumMarineSeasonality=8&SiteNameDisplay=Alde-Ore%20Estuary%20SPA>

Additional information to support information requests 1(a) to 1 (h)

No information was provided for a within project in-combination for the three Sizewell C (SZC) operational environmental permit applications currently being determined:

- Water Discharge Activities (WDA) permit application (reference: EPR/CB3997AD/A001)
- Combustion Activities (CA) permit application (reference: EPR/MP3731AC/A001)
- Radioactive Substances Activities (RSA) permit application (reference: EPR/HB3091DJ/A001)

There are three pathways that need considering in line with 1(g). Table 1 is provided for illustrative purposes only of the potential overlap of within project risks. There is a temporal overlap as all three are operational permits, there could be a spatial (layering, spreading or scattering) effect. For example, the proposed activities under the operational WDA and RSA permit applications will discharge effluents directly to the marine environment.

Table 1: *Illustration of screening for within project in-combination effects*

	Operational CA	Operational RSA	Operational WDA
Source			
Aerial emissions	Yes	Yes	No
Marine discharges	No	Yes	Yes
Freshwater discharges	No	No	Unlikely: However, pathway via tidal Minsmere sluice could occur and therefore needs to be considered and risk justified for thermal/chemical sources impacting on designated receptors.
Risks			
Radioactive substances	No	Yes	No
Nutrient enrichment	Yes	No	Yes
Toxic effect of pollutants (chemicals)	No	No	Yes
Acidification	Yes	No	No
Disturbance (noise)	Yes	No	No
Thermal effects	No	No	Yes

Table 2 is provided for illustrative purposes of the potential overlap of within operational WDA permit risks. There is a temporal overlap and there could be a spatial (layering, spreading or scattering) effect.

Table 2: Illustration of screening for in-combination effects between pollution sources of the operational WDA permit

	WDA waste streams A to F		WDA waste stream G	WDA waste stream H
	Thermal plume	Chemical Plume	STW	FRR
Risks				
Thermal	Yes	No	No	No
Chemical	No	Yes	No	No
Nutrient Enrichment	No	No	Yes	Yes

The same approach as illustrated in Table 1 and Table 2 could be used to address the assessment of construction and operational in-combination effects. Please note, the listed risk within tables 1 and 2 are not exhaustive, and there may be other additional risks that require consideration for in-combination effects.

As an example, the following questions could be addressed:

- Identification of the risks associated with EPR permits required for the construction of SZC.
- Will there be a temporal overlap between construction, commissioning and operation of SZC?
- Will there be any residual effects from the construction of SZC that could act in combination with operational discharges?
- Could the use of different discharge points for construction and operation of SZC result in a scattering effect, for example?
- Which hazards will be ongoing or continuous through construction and operation? For example via STW discharges.
- Consider which chemicals and their breakdown products are present within the construction and operational discharges. For example, could unionised ammonia, as a break down product of hydrazine, have an in-combination effect with other pollutants?

Justification must be presented where an effect or effects are screened out as not significant in combination, or not relevant for an in-combination assessment.

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